

Problem Solving With Answers

Case 1

A 12 months old boy presents to the emergency department with a 6 hour history of vomiting, colicky abdominal pain, and irritability. On physical examination a sausage like mass is palpable in the right upper quadrant of the abdomen

What is the most appropriate next step in management?

- A. Order a CT scan of the abdomen**
- B. Order a barium swallow**
- C. Obtain a surgical consultation**
- D. Follow up examination after 4 hours**

☐ **Choice A :**

a. Points against: time and money wasting + not method of choice, ultrasound is better.

☐ **Choice B:**

a. Points against: shows till duodenum while obstruction is in upper Rt quadrant + baby suffers from vomiting

b. If we were to use this method, we'd use barium enema

☐ **Choice C: (the right choice)**

a. Points with:

- 1. Age of boy, intussuception usually occurs between 6 months to 3 y.o. (usually after gastroenteritis)**
- 2. Sausage like mass (CANT possibly be liver)**
- 3. Since known intussuception, early management is very easy [reduction by pressure] using air**

☐ **Choice D:**

- a. Points against: sausage like mass suggests intussuception, if the last sentence was not in the case this would have been the right choice [hospital admission with regular check up every hour]**
- b. If a case of intuss. Is left without ttt, it proceeds to gangrene and death, with management necessitating surgical intervention, which would not have been required if managed early (reduction by pressure using air)**

Case 2

A 2 week old infant develops fever, 38.9 C, vomiting, and irritability. His heart rate is 170/min, and RR is 40/min. The

infants anterior fontanelle is full, but there is no nuchal (neck-related) rigidity. The rest of examination is unremarkable.

What is the appropriate management?

- A. Oral fluid and follow up in 24 hr**
- B. Oral amoxicillin and follow up in 1 week**
- C. Admission to hospital for investigation and ttt**
- D. IM ceftriaxone and follow up in 1 week**

Explanation of the case: □ the bulging fontanelle (full) = increased ICT. Fever, vomiting and irritability = infection. There isn't neck rigidity because this sign and others like brudzinski's..etc.. are non-dependable signs in children because of the open fontanelle which offers a relief of the increased tension.

N.B.: Rule:

An infant (a)febrile + (b)vomiting+ (c)irritable = admission to the hospital.

N.B.: if the fontanelle is depressed = dehydrated infant

□ **Choice A:** can never be a choice in anyway

☐ **Choice B:**

a) Points against: oral = management at home which is unacceptable in this case + amoxicillin is not the drug needed.

☐ **Choice C: [the right answer]**

a) Points with: the infant needs to be admitted for CT, CBC, culture, IV antibiotics, follow up to avoid complications as convulsions.

☐ **Choice D:**

A. Points against: patient must be admitted, so any choice other than IV antibiotics suggested by parents who might wanna go back home is unacceptable.

Case 3

A 10 months old infant presents with a day history of blanching confluent rash which started on his face and now covers his entire body. He is miserable with conjunctivitis and fever of 38 C. the illness started with runny nose and cough 5 days previously.

What is the most likely diagnosis?

A. Scarlet fever

B. Sweat rash

C. Chicken pox

D. Measles

☐ **Choice A:**

a) Points against: Fever is followed in 2 days by rash + less aggressive prodroma (miserable with) + sore throat [it is a strept infection]

☐ **Choice B:**

a) Points against: the disease is obviously of infectious eitiology

☐ **Choice C:**

a) Points against: presents with fever of low grade followed 1 day later by rash

☐ **Choice D: [the right answer]**

a) Age + aggressive prodroma + 4 to 5 days between fever and rash appearance (showing runny nose and cough) + conjunctivitis + 38.5 C.

b) The rash covers the entire body eventually.

N.B. german measles is excluded as the rash in it never appears in the whole body at the same time,i.e. when the rash reaches certain parts it disappears in other.

N.B. measles must show :Coryza (runny nose)+ Cough+ Conjunctivitis



Case 4 (1-2)

A mother brings to the clinic her 4 y.o. son who began complaining of Rt knee pain 2 weeks ago, is limping (بيعرج) slightly, is fatigued and has had a fever 38.2C

What is the important diagnostic Lab test to perform?

- A. CBC with differential**
- B. Sedimentation rate**
- C. EBV titre**

D. Rheumatoid factor

Explanation of the case:

- Patient suffers from arthritis and not arthralgia.
- Difference between them: arthralgia is subjective pain (patient says he is in pain). But arthritis is detected by swelling / limitation of movement as in limping
- Rt (unilateral) knee pain = not rheumatic fever i.e. not polyarthritis
- 2 weeks = not trauma

☐ **Choice A:[the right answer]**

- a) Points with: important to be done in the beginning to exclude major problems like Leukemia and to give hints on other diseases as viral infection, rheumatoid, acute infection.
- b) Leukemia in CBC: lymphocytic count increased, anaemia and thrombocytopenia.

Choice B: ☐

- a) Points against: not very useful as it is non-specific

Choice C: ☐

a) Points against: better do CBC first for the previous causes above

Choice D: ☐

a) Points against: same as C + rheumatoid is mainly in small joints

Problem solving (3)

(3-1)

A 12 years old female came to hospital with fever, difficulty in breathing, severe effort intolerance and joint pain which started in the rt. wrist and later involved the lt. knee. By examination BP was 90/60, HR was 140, RR was 35 and Temp. was 39 c. Abdominal examination revealed enlarged tender liver.

The first action to be done:

- 1- Starting antifailure ttt.**
- 2- NSAID administration.**
- 3- IV fluid administration.**
- 4- Blood culture .**

Explanation of the case:

Key points:

1. 12 years old + fever + Joint pain (large joints) + pain moves from joint to joint = most probably rheumatic fever.
 2. HR 30 beats per min more than normal (HR is affected by both temperature and age, in this case age is 12, so HR is supposed to be 90/min, the temperature is 39, so it is supposed to increase HR 20/min, that's 110/min.)
 3. Tachypnea (normal RR is 20 in this age)
 4. blood pressure is within normal, but we do not depend on this sign in children
- from 2, 3 and 4, patient is having heart failure (an emergency)
so we have to start antifailure ttt = diuretics, digoxin..etc..**(choice 1, the right choice)**

choice 2: points Against: we are not sure of diagnosis + we've to start antifailure ttt before anything else

2- A 3 years old boy came to the outpatient's clinic complaining of mild fever, runny, nose, malaise and vomiting. On throat examination there was hyperemia of the throat.

What is the most likely medicine to be given?

1-Oral Amoxicillin.

2- Paracetamol.

3- Multivitamin.

4-Acetylsalicylic acid.

Explanation of the case:

choice (1): points against: A mild infection (only runny nose, some hypremia, mild fever, malaise), therefore most probably viral not bacterial infection. So exclude oral amoxicillin.

choice (2): points with: All the child needs in this case is supportive measures like an antipyretic (paracetamol). Viral infections resolve spontaneously in a few days .

choice (3): points against: Child is feverish, vitamins may increase load (bacteria can use some vitamins/iron causing more problems)

choice (4): points against: Child 3 years old with mild throat infection most probably viral, so don't give acetylsalicylic acid as it may cause Reye's syndrome. It is acute fatty hepatoencephalopathy with peak incidence in children ranging between 6-12 years old, occurs with viral

infection e.g.influenza, measles

3- An 18 months old boy came to the emergency department with rapid respiration, drowsiness. He had a history of vomiting and diarrhea for 3 days before the onset of his condition. By examination HR was 160, RR was 60, Temp. was 38.5 and Bp was 60/40. He had delayed capillary refill.

What is the most likely action to be done?

- 1- Chest x-ray.**
- 2- Giving oral ttt and follow up.**
- 3- Administration of IV fluids.**
- 4- Blood gas analysis.**

Explanation of the case:

key points:

Vomiting and diarrhea = ongoing losses of fluids and electrolytes

Increased HR (out of proportion with age and fever), RR, and decreased BP, DELAYED capillary refill= shock

Choice 1: points against: it is an emergency + no need for it

Choice 2:points against: it is an emergency

Choice 3(the right choice):points with: shock is an emergency with dramatic response to IV fluids

Choice 4:points against: what happens clinically is (1) canula (2) take a blood sample (3) IV fluids. But we DO NOT wait for the results of blood gases, we start IV fluids at once, then if results show acidosis, we treat it.

4-A 4week-old, fullterm, breast fed girl has worsening yellowish discolouration of the skin, that the parents first noticed 15 days ago. On her examination, she is well appearing with good suckling and reflex activity, and is noted to have a liver edge 4cm below her costal margin. Her total bilirubin is 12 and direct bilirubin is 9.

What is the most likely diagnosis

- a. Biliary atresia**
- b. Cholecystitis**
- c. Sepsis**
- d. Breast milk jaundice**

explanation of the case:

Key points;

15 days = persistent jaundice

Appears good = not lethargic/septic

Hepatomegaly, direct bilirubin is more than 20% of total bilirubin , therefore cholestatic jaundice not breast milk

Choice (A): [the right choice]

Points with: it is not septic, nor breast milk + Direct bilirubin is more than 20% of total bilirubin + hepatomegaly

N.B.: it is biliary atresia as it's the most appropriate choice in the choices given in this case, but it could be any other cause of cholestasis.

Choice (B): not related to the case at all

Choice (C): points against: she's appearing good with good activity

Choice (D): if breast milk jaundice, it would have been indirect (unconjugated) bilirubinemia.

5- A 7-week old baby is referred with a 2-week history of vomiting. He is being formula fed (160 ml) every 2-3 hrs. On

examination he is well thriving, on the 90th percentile and has a normal examination.

What is the most likely diagnosis:

A -Pyloric stenosis

B -Gastro-oesophageal reflex

C -Over-feeding

D -"gastroenteritis"

Choice (A): points against: The baby is thriving, on the 90th percentile = growing well, in the high normal. If it was pyloric stenosis, there should be vomiting and malnutrition

Choice (B): points against: occurs on the second week, the child would not be on the 90th percentile, would not be able to eat every 2 to 3 hours.

Choice (C): [the right choice] : points with: high dose formula, high amount (every 2-3 hours).

Choice (D): points against: there is no inflammatory symptoms or signs, no diarrhea.

6- A 5-month-old girl presented with history of constipation and delayed developmental milestones. She had prolonged

physiological jaundice. On exam, she is hypoactive, has an open mouth with large tongue. Other systemic examinations are within normal.

What is the next step in management?

- A) Checking T4 and TSH**
- B) Checking serum bilirubin**
- C) Doing CT scan of head**
- D) Follow up after 4 weeks**

explanation:

key points:

Constipation, delayed developmental milestones, being hypoactive open mouth with large tongue, prolonged physiological jaundice = hypothyroidism

Choice(A): the right choice

Points with: manifestations of hypothyroidism. In any case, u've to investigate for treatable causes first.

Choice (B): there's no use of checking bilirubin + it is physiological.

Choice (C): there's no use of CT scan, even if there was brain damage, it's not treatable

Choice (D): the condition can't be delayed

7- A 6-month-old boy is brought by his mother because he is floppy when placed in a sitting position. He does not seem to be interested in reaching for toys. At 4 month visit, his head support was weak and had a persistent Moro reflex.

What is the most likely diagnosis?

- A) Duchenne muscular dystrophy**
- B)Cerebral palsy**
- C) Brain tumor**
- D) Meningitis**

Choice (A): points against: occurs around the age 6 to 7 years old

Choice (B): is the right choice: atonic CP

Points with: floppy, with delayed developmental milestones, persistent primitive reflexes.

Choice (C): brain tumour usually takes more duration in older ages.

Choice (D): no signs of inflammation, will not take this long duration as at the 4th month visit there was developmental delay, now the baby is 6 months old and is still floppy with persistent primitive reflexes

Case 1

(2-1)

An infant can move his head from side to side while following moving object, can lift his head from prone position 45 degrees off the examination table, and smiles when encouraged. he can sit with support

The most likely age of this infant is:

- A. 1 month**
- B. 5 months**
- C. 9 months**
- D. 12 months**

The right choice is (B) 5 months

Move from side to side=1month

Smiles=2 months

Lift his head 45 degrees=3rd month

Sit without support= 4th/5th month

N.B.: if the case included certain conditions delaying growth i.e.

neurological conditions or rickets, the answer would be different.

If baby has rickets: sits supported when 9 months.

Case 2

A 3 week old baby, who was full term, is brought to the hospital. He has recently been having problems completing his feeds and today appears short of breath. On examination, his HR was 180/min, RR 72/min, rectal temperature 37.4, BP 80/50, and he had a 4 cm hepatomegaly. All blood tests were normal.

What is the most likely diagnosis:

- A. Neonatal hepatitis
- B. Respiratory distress syndrome
- C. Heart failure
- D. Congenital infection

Explanation of the case:

Infant is recently short of breath + high heart rate not in proportion with age nor temperature + high RR + hepatomegaly = heart failure

Heart failure triad:

Tachypnea

Tachycardia

Tender hepatomegaly

His temperature is normal ($37.4 - 0.5 = 36.9$)

Choice (A): will not cause all these signs

Choice (B): points against:

it is more in premature

Choice (C): points with:

Heart failure triad is present

Choice (D): points against:

Normal blood tests, no other symptoms associated (e.g. rubella is associated with many other problems, and many other congenital infections as well)

Case 3

A 3 day old infant presents with the complaint of yellowish skin. Both the mother and the baby have O +ve blood. The baby's direct serum bilirubin is 0.2 mg/dl. With a total serum bilirubin of 11.8 mg/dl. The hemoglobin is 17 gm/dl. Platelet count is 278,000/ul. Reticulocyte count is 1.5%. the peripheral smear doesn't show abnormalities.

The most likely diagnosis:

- A. Rh or ABO incompatibility**
- B. Physiologic jaundice**
- C. Sepsis**
- D. Congenital spherocytic anemia**
- E. Biliary atresia**

Key points:

3 days old: physiologic jaundice occurs at this age

Both mom and baby have O+ve blood: not incompatibility

Hemoglobin 17, reticulocyte 1.5%: this is normal, so no hemorrhage nor hemolysis occurred [no anemia]

N.B.: if hemoglobin was 11.5 for example, the right answer would be hemolytic anemia.

Platelete count is normal: platelete count decreases in sepsis. So this isn't sepsis

Peripheral smear shows no abnormality: normal shape of blood cells, so no spherocytosis.

Choice (A): points against: no hemolysis evident by hemoglobin and reticulocyte count

Choice (B): points with: age, indirect hyperbilirubinemia [as the direct bilirubin is not more than 20% of total bilirubin], didn't cross maximum level of total bilirubin in physiological jaundice which is 12, exclusion of other causes.

Choice (C): points against: no sepsis evident by normal platelet count

Choice (D): point against: normal peripheral smear, no hemolysis

Choice (E): not direct hyperbilirubinemia

Case 4

A 15 months old infant presents to the emergency department with a 4-day history of high fever without any localizing sign. She suffers self limiting convulsion and is admitted for observation. The next day the fever subsides, but a red popular rash develops over her trunk and abdomen.

What is the most likely diagnosis:

A. Measles

B. Rubella

C. Roseola

D. Chicken pox

Explanation:

Short self limiting convulsions = due to fever.

The girl had an incubation period of 4 days showing high fever, but without any localizing sign (without 3C of measles: coryza, cough and conjunctivitis).then she shows red maculo-papular rash starting on her trunk. When the rash appeared, the fever subsided.

Choice (A): points against

In measles, there should be localizing sign (3C), and the fever rash relation-ship is different, the fever should rise markedly with appearance of rash on the 4th/5th day of the prodroma, rash starts on the face

Choice (B): points against:

Fever should increase with appearance of rash.

Choice (C): the right answer

Where prodroma is 4 days showing high fever, rash appears after 4 days, first on trunk, fever subsides

Choice (D):

Rash isn't maculopapular

Case 5 (5-2)

A 7 year old boy was limping for 3 days presented to the surgical department with severe acute colicky abdominal pain. The surgery resident asked for medical consultation for a rash on the back of both lower limbs of the child.

The acute abdomen is due to

- A. Rheumatic fever**
- B. Appendicitis**
- C. Henoch-schonlein purpura**
- D. Rheumatoid arthritis**

Choice (A):

Points with: age + limping

Points against: rash, no other signs of the criteria of rheumatic fever, rheumatic fever will not cause the other associations as acute abdomen.

Choice(B):

Points against: other findings(other than acute abdomen) are not related

Choice (C): the right answer

Points with: purpura on back of both lower limbs + acute abdomen +

limping

[This is a vasculitic syndrome]

Choice (D):

Points against: other findings(other than limping) are not related



Case 6

A 3 years old fully immunized child presents with fever and difficulty in breathing. She has had tonsillitis over the past week, for which she received oral antibiotics for 2 days. On examination, she looks unwell, she has mild recession, and a soft inspiratory sound is audible.

What is the most likely diagnosis:

- A. Bronchial asthma
- B. Retro-pharyngeal abscess
- C. Epiglottitis
- D. Pneumonia

Explanation:

A fully immunized child, so most probably she doesn't have pneumonia due to hemophilus influenza. she has tonsillitis the week before, for which she received an inadequate dose of antibiotics (2days). now, her general condition is unwell, she has fever, dyspnea and stridor (i.e. soft inspiratory sound)

Choice (A):

Point against: the audible sound is inspiratory, in case of asthma, it is supposed to be expiratory

Choice (B) the right answer:

Points with: inadequate ttt + stridor which means this is an upper respiratory tract infection. in retropharyngeal abscess, the tongue is pushed upwards and backwards, so the main complication is difficulty breathing.

Choice (D):

Points against: stridor means an upper not lower resp tract infection.

case 1 : (1-8) & (2-6)

A 10 month old female infant is brought to a clinic for routine health evaluation. Her diet consists of ordinary food and a lot of fresh whole milk. On examination, she is pale, hemoglobin is 7.5 gm% otherwise there are no abnormalities.

The most likely diagnosis:

A. Thalassemia

B. Iron deficiency anemia

C. Sickle cell anemia

D. Anemia of chronic illness

Explanation of the case:

- hemoglobin is 7.5 gm% → anemia
- no abnormalities → not hemolytic anemia
- fresh whole milk : allergy or iron deficiency anemia (which is very common)

choice (1) : point ☐ against: there's no abnormalities

choice (2) : the right choice ☐

choice ☐ (3) : point against: there's no abnormalities

Choice (4): point against: no ☐ history of chronic illness.

case 2 :

A 2 week old infant has had no immunization, sleeps 18 h a day, weight 3.5 kg, and takes 60 ml of standard infant formula four times a day, but no solid food and no iron or vitamin supplements.

What should be of most concern about this infant?

- 1.immunization state**
- 2.caloric intake**
- 3.iron levels**
- 4.circadian rhythm**

Explanation of the case:

2 week infant has no immunization history, average weight (3.5 kg)

2 week old infant needs no iron or vitamin supplements at this age

Average feeding of an infant is 8 – 10 times per day.

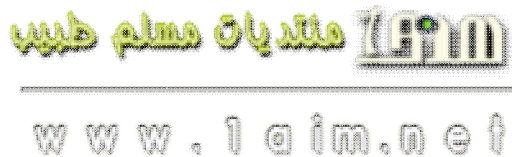
Choice (1): point against: infant of 2 weeks has no immunization history yet.

choice (2) : the right choice (average feeding is 8-10 times

per day, this infant has low caloric intake)

Choice (3): point against: 2 ☐ weeks infant doesn't need iron at this age.

Choice (4): point against: ☐ unrelated.



case 3 :

A 2 month old boy with a 3 day history of mild fever and runny nose suddenly develops high fever, cough and respiratory distress. Within 48 hours, the patient deteriorated and has developed a pneumatocele and a left sided pneumothorax.

What is the most appropriate first action?

- 1.I.V. antibiotics**
- 2.Blood gases**
- 3.Chest tube**

4.Antipyretics

Explanation of the case:

mild fever and runny nose = common cold

Suddenly develops high fever, cough and respiratory distress indicates that common cold progress to lower respiratory tract infection, then pneumonia.

The patient develops pneumothorax which is very dangerous as it compresses the lung and may lead to cyanosis and shock.

1st action to be done is to treat pneumothorax

choice (1) : point against: it takes 48 hs to start action and this case is emergency

Choice (2): point against: it diagnoses acidosis, but this is not the 1st action.

Choice (3): point with: chest tube is needed to drain air and must be done immediately.

Choice (4): point against: part of the ttt but not the 1st action.

case 4 : (1-9)

A 10 week old infant develops fever (38.5 C), vomiting, and

irritability. His heart rate is 170/m and respiratory rate is 40/m. the infant's anterior fontanel is full, but there is no neck rigidity. The rest of the examination is unremarkable.

What is the most appropriate diagnostic test?

- 1. CSF examination**
- 2. Complete blood count and ESR.**
- 3. X- ray skull**
- 4. chest x-ray**

Explanation of the case:

Tachycardia is proportionate to fever. □

Full anterior □ fontanel indicates increase of intra cranial tension.

Absence of neck □ rigidity don't exclude meningitides as it's not a dependent sign in children due to open fontanel, which offer a relief of increased tension

Fever, □ vomiting, irritability are signs of infection.

choice (1): right □ choice: From the above cerebrospinal fluid examination is the most appropriate diagnostic test for meningitis as it indicates turbidity of CSF and confirm meningitis

Choice (2): point against. It will be done later as this is not □ a specific diagnostic test as it will show increase in WBCS

count indicating infection but doesn't detect the type of infection.

Choice (3): point ☐ against: it is useless in this case as it will show nothing and the infant will be exposed to X-ray without important reason.

Choice (4): the respiratory ☐ rate is normal and there is no symptoms suggesting any chest problems.

case 5 :

A 1 day infant who was born by a difficult forceps delivery is alert and active. She doesn't move her left arm and keeps it internally rotated by her side with the forearm extended and pronated.

Which of the following is an expected clinical finding?

1. Intact both Moro and grasp reflex.
2. Lost both Moro and grasp reflex.
3. Intact Moro and lost grasp reflex
4. Lost Moro and intact grasp reflex.

Key points:

Difficult forceps delivery.□

She doesn't move her left arm and keeps it internally rotated by her side□ with the forearm extended and pronated.

All this points to Left Erb's□ palsy.

Expected that all reflexes are lost except grasp reflex.□

□ Right choice is: 4 (Lost Moro and intact grasp reflex.)

case 6 :

A 4 month old infant presents with fever and poor feeding. Examination revealed moderate dehydration, poor perfusion, and screaming. The WBCs count is elevated with shift to the left. Urine analysis of a catheterized specimen reveals red blood cells, white blood cells, and scant bacteria.

What is the most appropriate course of treatment?

- 1. Fluid restriction.**
- 2. Surgical intervention**
- 3. I.V. antibiotics therapy**
- 4. Wait for culture results**

Explanation of the case:

Poor feeding in children means loss of ☐ function and leads to dehydration.

Poor perfusion is dangerous as it may ☐ lead to circulatory failure.

Screaming in children indicates pain ☐

Increased WBCs count with shift to the left = bacterial infection. ☐

A ☐ catheterized specimen (to avoid contamination) reveals red blood cells, white blood cells, and scant bacteria = Urinary tract infection

Diagnosis : ☐ septic shock on top of UTI

Choice (1): point against: the infant is ☐ dehydrated; fluid restriction will worsen the condition.

choice (2) : point ☐ against: not indicated

Choice (3): right choice: as this case is a septic ☐ shock which may be complicated and cause death, so must be treated immediately.

choice (4) : point against : takes time, it should be done later after the ☐ patient start receiving I.V. antibiotics then change the treatment according to culture results.

case 7 : (1-7)

A 1 day old infant develops jitteriness and convulsions . He was born at 34 weeks gestation to a woman whose pregnancy was complicated by diabetes mellitus and pregnancy induced hypertension.

Which of the following serum values could explain his condition?

- 1. serum bicarbonate level of 22 mEq/dl**
- 2. serum calcium of 6.2 mg/dl**
- 3. serum glucose of 45 mg/dl**
- 4. Serum sodium of 138 mEq/dl.**

Explanation of the case:

convulsions ☐ is due to :

- 1. premature infant (34 weeks)**
- 2. Infant of diabetic mother develops hypocalcaemia in the first 3 days, hypocalcaemia → convulsions.**
- 3. Prematurity induce hypocalcaemia.**

Choice 1 : point against : normal ☐ level of bicarbonate

Choice 2 : the right choice :serum level below 7 mg, ☐ hypocalcaemia

Choice 3: point against: normal level of glucose. ☐

☐ Choice 4: point against: normal level of sodium.

case 8 :

An 8 years old girl present with low grade fever and a diffuse maculopapular rash. On examination her physician notes mild tenderness and marked swelling of her posterior cervical and occipital lymph nodes. Three days after the onset of illness , the rash has vanished.

What is the most likely diagnosis ?

- A. Measles.**
- B. German measles.**
- C. Roseola infantum.**
- D. Infectious mononucleosis.**

Explanation of the case:

An 8 years old girl with low grade fever ☐ (this is infection).

With Swelling of specific lymph nodes (posterior ☐ cervical & occipital) and not generalized lymphadenopathy

And rash ☐ which disappeared 3 days after the onset of illness (very typical of German measles)

. This case fulfills the criteria of German measles

☐ Choice A :

a. Points against: there is no Koplik spots.

b. There is no high fever; there is no conjunctivitis, no coryza and no cough.

Choice B : ☐ (the right choice)

Choice C : ☐

a. Points against: the age group of Roseola infantum is from 6 months to 2 years, and the girl's age is 8 years.

b. Fever accompanying Roseola infantum is high fever not low grade fever.

Choice D: ☐

a. Points against; there is no evidence of sore throat or presence of any exudates on the tonsils.

b. There is no evidence of splenomegaly which is characteristic in case of infectious mononucleosis.

case 9 :

A 14 month old infant presents to clinic because of poor weight gain and delayed walking . History revealed exclusive breast feeding with little baby food. On examination he has large head, distended abdomen, and palpable swellings at costochondral junctions.

What is the expected laboratory finding in this infant ?

A. Low calcium.

B. Low alkaline phosphatase .

C. Low phosphorus.

D. None of the above.

Explanation of the case:

14 month old ☐ infant, exclusive breast feeding without vit. D supplementation.

Delayed ☐ walking, large head, distended abdomen and palpable swelling at

costochondral junctions= rosary beads (skeletal and thoracic manifestations of rickets).

This is typical case of infantile vitamin D deficiency rickets.

☐ **Choice A: Points against: serum Ca level is usually normal in case of rickets and decreases only in certain cases as parathyroid exhaustion, severe cases and shock therapy with vit. D as it causes deposition of blood Ca in bone.**

☐ **Choice B: Points Against: serum level of alkaline phosphatase increases in case of rickets.**

Choice C: (the right choice) Points with: serum level of ☐ phosphorus markedly decrease in case of rickets.

Choice D: Points against: ☐ there is already one correct answer..

case 10 :

An 11 years old child complains of swollen glands in his neck and groin for the past 6 months and increasing cough over the previous 2 weeks. He also reports some fevers, especially at night, and some weight loss .On examination , he has non tender cervical , axillary and inguinal nodes, no hepatosplenomegaly , and other systems are within normal.

What is the most appropriate next step ?

A. Biopsy of anode .

B. Complete blood count and differential.

C. Trial of antituberculous drugs.

D. Chest X-ray.

Explanation of the case :

11 years old boy with swollen glands in 2 different sites (neck and groin) for 6 months.

He also suffers from chronic cough.(for 2 weeks).

With presence of signs of chronic toxemia (night fever & weight loss).

With swollen non tender cervical , axillary and inguinal lymph nodes.

No hepatosplenomegaly and this exclude low grade malignancy as Hodgkin lymphoma and other lymphatic disorders.

This is most probably a case of T.B

Choice A : Points against ; this is an invasive method not preferred except in case of malignancies and lymphomas and it have been excluded in this case.

Choice B : it is not very useful as a next step in investigations for a TB case especially that it didn't include ESR which is useful in case of TB (as it will be elevated).

Choice C : Points against: the drugs is not used except after complete confirmation that this is a case of T.B in order not to harm the patients with the side effects of these drugs.

Choice D : (the right choice) Points with : This is an easy and most appropriate and diagnostic method.

case 11 :

The mother of a 2 week old infant reports that her baby sleeps most of the day, she has to awaken her every 4 hours to feed and the infant has persistently hard stool . On examination, HR 75/m and temp. Is 35 C , baby is still jaundiced and has a distended abdomen and umbilical hernia.

What is the most appropriate diagnostic test ?

- A. Abdominal ultrasound.**
- B. Blood count and blood culture.**
- C. Total and direct serum bilirubin.**
- D. T4 and TSH.**

Explanation of the case :

A neonate (2 weeks). Sleeps most of the day , with poor feeding .

HR 75/m (bradychardia), and Temp. 35 C (hypothermia).= low basal metabolic rate.

Persistent jaundice and distended abdomen.

Hard stool and umbilical hernia.(excluding sepsis) and (confirming hypothyroidism).

This case is fulfilling the criteria of hypothyroidism.

Choice A : Points against : There is no need for this intervention .

Choice B : Points against : can be used in case of sepsis and the presence of hard stool and umbilical hernia excluded sepsis as they are very common with hypothyroidism.

Choice C : ☐ Points against : there is no need for this test for diagnosis as we already know that there is jaundice.

Choice D : (the right choice) this is diagnostic ☐ test for hypothyroidism.

case 12 :

A previously healthy 8 years old boy has a 3 weeks history of low grade fever of unknown source, fatigue , myalgia and headaches. On examination, he is found to have a heart murmur, petechiae and mild splenomegaly.

What is the most likely diagnosis ?

- A. Rheumatic fever.**
- B. Scarlet fever.**
- C. Endocarditis.**
- D. Tuberculosis.**

Explanation of the case :

8 years old boy having low grade fever of unknown source=☐ (absence of evidence of streptococcal infection excluding rheumatic fever)

☐ With heart murmur and petechiae and mild splenomegaly.

Also complaining of ☐ fatigue , myalgia and headaches but with no sore throat and no tongue changes (excluding scarlet fever).

Also complaining of petechiae. ☐

That's why this case is most probably a case of endocarditis.

Choice A : Points ☐ against : absence of major criteria ,absence of evidence of streptococcal infection, presence of splenomegaly and petechiae can not be explained by rheumatic fever.

Choice B: Points against :there is no sore throat, no ☐ tongue changes and no maculopapular rash.

Choice C : (the right choice). ☐

Choice D :Points against : there is no evidence of any chest symptoms as ☐ though also there is no night fever or weight loss.

case 13 :

A 1 week old infant presents with large pale blue lesion over the buttocks bilaterally. The lesion is not palpable and it is not warm or tender. The mother denies trauma and reports that the lesion has been present since birth.

What is the most appropriate action ?

- A. Check platelet count.**
- B. Give vitamin K injection.**
- C. Delay circumcision.**
- D. Reassurance.**

Explanation of the case :

1 week ☐ old infant with large pale blue lesion over the buttocks bilaterally and present since birth.

It is not palpable, not warm or tender excluding trauma and ☐ inflammations.

The mother denies trauma excluding child abuse. ☐

This ☐ case is fulfilling the criteria of Mongolian spots.

Choice A : Points ☐ against : there is no need to check platelets count as there is no evidence of bleeding tendency.

Choice B : Points against : there is no bleeding so ☐ there is no need for this choice.

Choice C : Points against : there is no ☐ reason for the delay as there is no bleeding , no inflammation and no critical condition.

Choice D : (the right choice) because this points will ☐ disappear spontaneously after 1-3 years.

Moak exam cases

case 1 :

A 1 month old infant is breast fed since birth. His weight is 4 kg. The mother is giving the feeds every 2-3 hours. She is not giving any vitamin or iron supplementation. He passed 4 yellow stools/day.

What should be of most concern about this infant ?

- A. Stool pattern.**
- B. Caloric intake.**
- C. Iron levels.**
- D. None of the above.**

Explanation of the case:

A 1 month infant breast fed .

His mother is giving the feeds every 2-3 hours.(and this means he receives average 8-10 feeds/day this means he is receiving adequate caloric intake) and that's why his weight is very good (4 kg).

He is not receiving any vitamins or iron supplementation and that's normal for his age as he will not need vitamins or iron supplementations before 3-4 months.

He passed 4 yellow stools/day and that's normal .(normal till 8or 10 yellow stools/day).

So, this infant is very normal and he is receiving adequate nutrition and adequate requirements for his age.

Choice A : his stool pattern is normal.

Choice B : his caloric intake is very good.

Choice C : he needs no vitamin or iron supplementation at this age.

Choice D : THE RIGHT CHOICE.

case 2 :

A child is brought to pediatric clinic for a well-child visit. He is able to support his head but can not sit even with support . he smiles on social contact and laughs but can not transfer toys from one hand to another.

What is the most likely age of this child ?

- A. 2 months .**
- B. 4 months.**
- C. 6 months.**
- D. 8 months.**

Explanation of the case :

a child is brought to clinic for a well- child visit.(so he is normal ☐ & healthy child).

He is able to support his head. (child can do this ☐ at age of 3-4 months).

He can not sit even with support. (the child can ☐ sit with support at age pf 5-6 months).

He smiles on social contact and ☐ laughs. (the child can do this at age of 4 months).

He can not transfer ☐ toys from one hand to another .(the child can do that at the age of 6 months)

From the above the most likely age of this child is 4 months. ☐

☐ Choice A : he can't support his head at 2 months.

Choice B : THE RIGHT ☐ CHOICE.

Choice C : he can perform more acts at this age. ☐

Choice D : ☐ he doesn't roll over. (doesn't turn from prone to supine position and vice versa).

case 3 :

An 8 month old infant presents to the pediatrician with a 3 day history of nasal discharge, temperature of a 38.5 C and decreased appetite. Examination reveals a tachypneic infant with audible wheezing. There is flaring of alae nasi as well as intercostals and subcostal retractions

What is the most likely diagnosis ?

- A. Croup.(this is one of the causes of stridor due to viral infection of the air ways as in case of acute laryngitis or tracheobronchitis).**
- B. Acute bronchiolitis.**
- C. Acute asthma.**
- D. Acute epiglottitis**

Explanation of the case :

An 8 month old infant (common age for □ upper respiratory tract infection), with 3 day history of nasal discharge and temp. 38.5C and decreased appetite (from the illness). (this info. Suggests also upper respiratory tract infection)

He is tachypneic (this grade 1 □ respiratory distress), and examination revealed audible wheezes.

He is □ suffering also from intercostals and subcostal retractions (this is Grade 2 respiratory distress). And since this retractions are intercostals and subcostal and NOT supraclavicular or suprasternal this excludes case of croup or case of stridor.

From the above information infant with upper □ respiratory tract infection having tachypnea and retractions and wheezes most probably he is suffering from acute

bronchiolitis and the source of infection may be one of the family members.

Choice A : intercostals and subcostal retractions exclude croup and stridor.

Choice B : THE RIGHT CHOICE. (the history and clinical picture above typically fulfill the criteria of this disease).

Choice C : acute asthma is not corresponding to this age group.

Choice D : there is no high fever, upper airway obstruction, And there is no pathognomonic features as drawing.

case 4 :

A 4 month infant is brought to the pediatrician by his mother because he is not feeding well. Examination of the mouth reveals curd like plaques on the tongue and buccal mucosa that don't scrape off easily.

Which of the following sites may be involved with this condition ?

A. Eyes

B. Scalp.

C. Perineum.

D. Umbilicus.

Explanation of the case :

A 4 month infant , he is not feeding well and there is no history of diseases or abnormalities.

But he is ☐ suffering from curd like plaques on tongue and buccal mucosa that don't scrape off easily.

☐ This is typically a case of moniliasis. And perineum can be affected also by moniliasis.

Choice A : not affected. ☐

Choice B : not ☐ affected.

Choice C : THE RIGHT CHOICE. ☐

Choice D : not ☐ affected.



Case 1

A 6 months old infant has eaten a diet with the following content and intake for the past 5 months: proteins 4% of calories, fat 40% of calories and carbohydrates 56% of calories. 105 calories per kilogram of body weight per day. This patient will display symptoms consistent with which of the following?

- 1. rickets**
- 2. marasmus**
- 3. obesity**
- 4. kwashiorkor**

explanation:

low protein, high carbohydrates in diet, normal calories.

So the answer is (4) kwashiorkor

N.B. if the case included normal proteins in calories, the answer would be obesity.

Case 2

The mother of a 4 months old boy complains her child still cant support his head. On examination the child has a flat occiput, and a transverse plamar crease.local examination of the heart shows a hollow systolic murmur over the left parasternal area.

One of the common complications of this condition is:

- 1. ITP**

2. G6PD deficiency

3. leukemia

4. pyloric stenosis

explanation:

the child shows signs of down's syndrome (delayed milestones, flat occiput, transverse palmar crease) with a VSD. One of the common complications is leukemia, that's why u've to examine spleen.

The right answer is (3) leukemia

Case 3

A 9 year old child suffers from an acute onset weakness which initially started in the lower limbs and was preceded 3 weeks earlier by a respiratory tract infection. On examination there is hypotonia and hyporeflexia of both lower limbs. There is no history of convulsions.

The most likely diagnosis is;

1. brain tumour

2. poliomyelitis

3. guillan-barre syndrome

4. werding hoffman syndrome

Explanation:

Key words:

- Initially started = there is progression
- Hypotonia + hyporeflexia = lower motor neuron lesion
- Both LLs = symmetrical disease

Choice (1):

Points against: it is an acute disease, no signs of increased ICT, preceded by viral infection.

Choice (2):

Points against: it is symmetrical, ascending unlike polio

Choice (3): the right answer

Points with: viral infection followed by symmetrical ascending hypotonia and hyporeflexia.

Choice (4):

Points against: werding hoffman syndrome is an autosomal recessive syndrome that appears at the age of 40 years old. It affects anterior horn cells causing their degeneration, associated with repeated chest infection, bad prognosis.

Case 4

A 14 years old boy has sickle cell disease. He presents to the emergency room with increased jaundice, pain in the right upper quadrant with guarding, and a clear chest. CXR is normal.

Which of the following tests is more likely to reveal the cause of pain:

- 1. serum chemistries**
- 2. CBC with platelets, DD**
- 3. ultrasound abdomen**
- 4. upper GIT endoscopy**

explanation:

keywords:

- guarding = severe tenderness**
- normal CXR = normal lungs AND heart
(i.e. not secondary congestion in liver)**

Choices (1) and (2):

Points against: it's already clear that he has sickle cell anemia, most probably this is a crisis. There is increased jaundice (high bilirubin)

Choice (3): the right answer

Point with: to detect vaso-occlusive crisis

Coice (4):

Point Against: will not tell the cause of pain.

Case 5

An infant weighing 1400 gm is born at 32 weeks. HR:140, RR:80, temp:35 C. the lungs are clear with bilateral breath sounds, there is no murmur.

Which of the following is the most important first step in evaluating this infant:

- 1. obtain CBC and differential**
- 2. perform lumbar puncture**
- 3. chest x-ray**
- 4. place infant under warmer**
- 5. administer oxygen**

explanation:

premature, underweight,

high HR, RR

low temperature

with normal lungs and heart,

hypothermia which is a common presentation in prematures

causes all these findings.

So the right answer is (4) place infant under warmer

case 6

on a routine well child examination, a 1 year old boy is noted to be pale. He is in seventy-fifth percentile for weight and twenty-fifth percentile for length. Results of physical examination are other normal. His hematocrit is 24%. The answer to which of the following questions is most likely to be helpful in making diagnosis?

- 1. what is the child's usual daily diet?**
- 2. did the child receive phototherapy for neonatal jaundice?**
- 3. has anyone in the family received a blood transfusion?**
- 4. what is the pattern and appearance of his bowel movements?**

Explanation:

- A normal 1 year old infant, with no jaundice.(not chronic hemolytic anemia)**
- He is pale, anemic (hematocrite/3 = Hb) & stunted,**
- His height is disproportionate to his weight. Usually in**

chronic diseases, height is more affected (weight is affected in both acute and chronic, height in chronic only)

- Conclusively, this is probably a dietary problem

So the right answer is Choice (1)

Choices (2) and (4) are not valuable in the diagnosis.

Case 1

A 7 year old boy arrives at the emergency department, complaining of rapid breathing and vomiting, dating 3 days ago, he has been receiving IM antibiotics for 3 days with no improvement. On examination, he has rapid deep breathing with RR 60/min, HR 90/min. chest x-ray was normal.

What is the next investigation to do?

- 1. CT chest**
- 2. upper GIT endoscopy**
- 3. echocardiography**
- 4. blood gases**

explanation:

- normal CXR = normal lungs and heart
- tachypnea with no auscultatory findings, no fever, no abnormality, rapid DEEP breathing, most probably a case of acidosis with compensatory hyperventilation.
- Vomiting is due to irritation from acidosis.

The right answer is choice (4) blood gases

All the other answers are non-valuable investigations.



case 2

a 9 year old child comes to the hospital with an acute onset of generalized convulsions and disturbed conscious level.the parents did not report any similar neurological trouble beforehand. On examination, HR was 70/min, RR is 20/min

what is the first action to do after control of convulsions?

- 1. blood gases**
- 2. blood pressure measurement**
- 3. CT brain**
- 4. fundus examination**

explanation:

a 9 years old child with normal HR and RR, suffers from acute onset of convulsions and disturbed consciousness, you have to make sure it is not hypertensive encephalopathy as it is a very common cause

so the right answer is choice (2) BP measurement.

All the other investigations are correct but the priority is to BP measurement.

So in any case of convulsions in a child specially if without similar history, the first action is to give anticonvulsant, then measure BP, then do the other investigations.

case 3

an 8 year old boy comes complaining of bedwetting for the past 2 weeks. He has previously been continent. On

examination, his height is below 5th percentile. His Hb is 6.5%

what is the most important next step

- 1. check blood sugar**
- 2. give oral iron**
- 3. try fluid restriction and rewarding for dry nights**
- 4. check BUN and creatinine**

explanation:

- the boy is 8 years old, he was continent (able to control urination), but for the last 2 weeks, he started bedwetting, this means this is secondary enuresis.**
- He's having severe anemia, very short(5th percentile)**
- Since height is affected more in chronic problems [more than 6 months], this means a chronic condition caused the enuresis problem.**

Choice (1):point against:

causes polyuria, but not associated with anemia. Also DM will not present as a chronic disease in this age, without other manifestations like DKA

Choice (2): point against:

this is not dietary deficiency,

it is not the most important step in management.

Iron deficiency will not cause the child to be on the 5th percentile

**Choice (3):point against:
in ttt of primary enuresis**

Choice (4): This is the right choice

- [Blood Urine nitrogen = urea, and creatinine] = kidney function tests

- Chronic renal failure is one of the most common causes of stunted growth

- Kidney produces erythropoietin, functions in homeostasis and PH system, so in chronic failure it causes anemia.

**N.B. if the case was a case of 2ry enuresis only without low Hb level, the answer would be blood sugar,
But in this case, very low Hb recommends kidney function tests to detect renal failure.**

case 4

a 1 year old infant is complaining of delayed sitting and repeated chest infection, on examination there is prominent costochondral junction, he is exclusively breast fed, He received multiple injections for treatment of his condition.

All of the following are expected complication for his condition except:

- 1. anorexia**
- 2. vomiting**
- 3. oliguria**
- 4. nephrocalcinosis**

explanation:

multiple injections caused hypervitaminosis D, so the right

answer is (3) oliguria

as hypervitaminosis D causes polyuria (loss of constipation). □ fluids

case 6

a 4 year old boy, whose past medical history is positive for 3 UTI. now presents with BP 135/90, renal scan shows bilateral

renal scars.

What should have been done to prevent this situation:

- 1. give antibiotics for 3-5 days for each UTI**
- 2. do cystourethrography and give prophylactic Abs accordingly**
- 3. abd U/S every 3 months**
- 4. prescribe urinary effervescent**

explanation:

**renal scars by scan indicates fibrosis from repeated inflammations. (pyelonephritis)
this caused the high blood pressure.**

Choice (2): is the right answer

Points with: this is an investigation where a dye is injected through urethra, it is done to detect reflux at the level of the ureters when joining the bladder. This occurs in a congenital disease where when the bladder contracts to evacuate, the ureters are not completely compressed allowing reflux of urine.

The reflux causes repeated infections.

So detection of this disease and surgical correction was essential to prevent this condition.

case 7

a previously well 1 year old infant has had a runny nose and has been sneezing and coughing for 2 days. Two other members of the family had similar symptoms. Four hours ago, his cough became much worse. On physical examination, he is in moderate respiratory distress with nasal flaring, hyperexpansion of the chest and easily audible wheezing without rales (crepitations) by auscultation.

Which of the following is the most likely diagnosis?

- 1. bronchitis**
- 2. viral croup**
- 3. asthma**
- 4. epiglottitis**

explanation: an infected (family members have the infection too) child, most probably viral (mild disease).

Choice (1):Is the right answer

Choice (2): points against:

Viral croup is oedema at the level of larunx and vocal cords, this causes audible inspiratory sound without auscultation (stridor)

Choice (3): points against:

Infectious nature, wheezes are not expiratory, not in a 1 year old infant

Choice (4): points against:

Will not cause any of the mentioned symptoms and signs

**[size=24]prepared by heba saif
[/size]**

**1- a girl presents with frequency of urine difficult breathing.
the physician suspects new onset diabetes and he performs
urine analysis and found glucose and ketones in urine**

the blood gas of this patient is likely to be

a- ph: 7.05 CO₂: 36 HCO₃: 18

b: PH: 7.36 CO₂: 37 HCO₃: 22

c: PH: 7.45 CO₂: 50 HCO₃: 11

d: PH: 7.2 CO₂: 25 HCo₃: 12

**2-a patient with sorethroat and fever by examination red
congested tonsils and follicles and pus the mother says he
has repeated attacks of this condition**

possible complications include:

- 1- anemia and thrombocytopenia**
- 2- hematuria and red cell casts**
- 3- dont remember**
- 4-i dont remember**

3- patient 1 year having rhinorrhea and sneezing for 4 days then developed cough difficulty in breathing examination revealed moderate distress and x- ray shows hyperinflated chest

the most likely causative organism is:

- 1- staph aureus**
- 2- Haemophilus influenza**
- 3- echo virus**
- 4- respiratory syncytial virus**

4-1 week child present with severe vomiting which is bilious and abdominal x- ray revealed increased bubbles in stomach and intestine and the colon is on left side

the diagnosis is:

- 1- jejunal atresia**

2- congenital hypertrophic pylorus

3- malrotation of volvulus

4- intussusception

5: a child present with irritability and neck rigidity and when csf analysis done it showed clear csf fluid and wbcs 150/hpf 30% are polymorphs and 60% are lymphocytes

the diagnosis is:

1- viral meningitis

2- bacterial meningitis

3- brain tumor

4-

6- a child presented with cough and respiratory distress the doctor diagnosed pneumonia and gave him intramuscular penicillin after that the child developed wheal and redness

the immediate management is

1- oral antibiotics

2- antihistaminics

3- salbutamol

4- IV adrenaline

7-A 10 year old female infant is brought to clinic by his mother because he developed a painless rash on his face and legs. The rash began as red papules and then became vesicular and pustular and finally it coalesced in honeycomb-like crusts. The boy does not have fever and the rash seems spreading to other areas.

What is the most likely causative agent?

- a) Herpes simplex**
- b) Herpes zoster**
- c) empygo**
- d) meningococci**

8- a newly born infant full term weighs 3.6 kg was born by caesarian section and there was little amniotic fluid he cried after birth but later on after few hours he started to develop distress x ray showed fluid line and increased bronchovascular markings

the diagnosis is:

- 1- RDS**
- 2- transient tachypnea of newborn**
- 3- meconium aspiration**
- 4- pneumonia**

IMCI

1- 13 months lethargic and with difficult breathing and cough there is fever 38.5 and there is respiratory rate is 43 otherwise examination is normal

a- this is a case of pneumonia F

b- appropriate antibiotic is enough F

c- hospitalization is essential T

4- fever is classified as fever possible bacterial infection F

2- 16 month old child present with diarrhea for 14 days and there was blood in stools the child is alert normal eyes not thirsty but skin pinch go slowly

a- this is sever persistent diarrhea F

b- the case doesnt require requires antibiotics for treatemnt T

c- fever is classified as fever possible bacterial infection T

d- the case needs hospitalization F

answers:

P.S.

- 1- metabolic acidosis(last choice)**
- 2- hematuria and red cell casts**
- 3- respiratory syncytial virus**
- 4- malrotation of volvulus**
- 5- viral meningitis**
- 6- IV adrenaline**
- 7- emptigo**
- 8- transient tachypnea of newborn**

problem solving

1-3week child coming with vomiting ,non bile staining .loss of weight

which of the following present in examination :

- 1.abdominal distention**
- 2-abdominal tenderness**
- 3-decrease intestinal sound**
- 4-olive mass in the upper quadrant**

**2-patient with history o congenital heart disease then
splenomegaly & petechie
(a case of infective endocarditis)**

which o the following is true

1- the prominent organism is haemophilus influenza

2-emboli not occur

3-echocardiography is very helpul

4-antibiotic therapy for 7-10 days

**3-patient with history of blood transfusion,come with
repeated pain in the hand**

which of the following is not true:

1-short systolic murmur is present

2-huge spleen is present

3-widening of medullary spaces

**4-newborn his mother come for routine exam on
examination he is pale pink ,respiratory rate 35.heart rate
was 80/60,breast nodules**

which of the following concern about:

1-blood pressure

2-respiratory rate

3-breast nodules

4-non of the above

5- waddling gait child with prominent forehead, distended abdomen, wide lower limb bone

1-vit a deficiency

2-vit d deficiency

3.....

4.....

6- 10 month child with high temperature with sore throat. non toxic. after convulsion was alert & active which will u do:

1-CSF

2-ECG

3-CT

4-reassurance

answers:

1====>olive mass in the upper quadrant

2====>echocardiography is very helpful

3====>huge spleen (as it is sickle cell anemia)

4====>none of the above

5====>vitamin D

6====>reassurance

1-3week child coming with vomiting ,non bilus.loss of weight

which of the following present in examination :

- 1.abdominal distention**
- 2-abdominal tenderness**
- 3-decrease intestinal sound**
- 4-olive mass in the upper quadrant**

**2-patient with history of congenital heart disease then
splenomegaly & petechiae**

**(i cant remember all but was obvious that is infective
endocarditis)**

which of the following is true

- 1- the prominent organism is haemophilus influenza**
- 2-emboli not occur**
- 3-echocardiography is very helpful**

4-antibiotic therapy for 7-10 days

3- 7years child with convulsion blood gases is normal

which is true

1- neurological exam

2-bedside glucoe

4-case of measles &marasmus were clear

5- child has paroxysmal attack of cough followed by vomiting then inspiratory sound (whooping cough)

6-case was well described as thalassemia which of following is not found in investigation

- 1-hb f 90%
- 2-increase serum iron
- 3-decrease iron binding capacity
- 4- conjugated bilirubin

the answer:

1-4

2-3

3=2

6-4

Mock Exam

1) A 1 year previously healthy male was admitted to the hospital in the last evening, he presented with cough, high fever, and mild hypoxia. CXR revealed right upper lobar consolidation. Approximately 20 hours after hospitalization. the patient deteriorates;

developing severe respiratory distress, hypotension, poor perfusion and his color becomes dusky.

What is the most likely diagnosis?

- A) Uncomplicated pneumonia**
- B) Pneumonia complicated by sepsis**
- C) Pneumonia complicated by heart failure**
- D) Pneumonia complicated by pneumothorax**

2) A 10-month-old female infant is brought to clinic for routine health evaluation. Her diet consists of ordinary food and a lot of fresh whole milk. Her weight is 9 kg. On examination, she is pale, hemoglobin is 7.5 gm%; and platelet count is high.

What should be of most concern about this infant?

- A) Weight**
- B) Caloric intake**
- C) Iron levels**
- D) The platelet count**

3) A 10-year- old boy is brought to clinic by his mother because he developed a painless rash on his face and legs. The rash began as red papules

and then became vesicular and pustular and finally it coalesced in honeycomb-like crusts. The boy does not have fever and the rash seems spreading to other areas. What is the most likely causative agent?

- ;'A)' Herpes simplex**
- B) Herpes zoster**
- C) Staphylococci**
- D) Meningiococci**

4) A 16-month-old girl is brought to medical attention because of irritability poor feeding, and temperature up to 39.4 C. Careful history and physical examination fail to disclose any identifiable cause of her fever. There is some degree of abdominal tenderness on palpation.

What is the most likely diagnosis?

- A) Gastroenteritis**
- B) Pneumonia**
- . ' C). Otitis media**
- D) Urinary tract infection**

و دلوقتى مع الاجابات العجيبه

1-====> D

2-====> C

3-====> C

4-====> D

Problem solving:

* Names: problem solving, case based teaching, clinical case and studying

* Characteristics:

MOST COMMON, MOST important topics, e.g.: strider, bronchitis, bronchial asthma, pneumonia, emergencies etc.....

Problems contain ONLY important items.

ال cases فيها الحاجات المهمه بس

N.B.: in meningitis == ☐ CSF examination shows low glucose == ☐ bulging anterior fontanel.

☐ **advantages:**

- **Brings real life to classroom.**
- **Gives the chance to students to participate.**
- **Helps to develop critical reading.**

N.B.: best initial management for pneumonia is OXYGEN, Not chest x-rays, NOT antibiotics (the latter are needed but they are NOT the initial measures.

N.B.: most important investigation for hydrocephalus is CT SCAN, NOT x-rays, NOT CSF.

- **Contains topics not frequently seen ex: G6PD, spherocytosis, sickle cell anemia.**

☐ **developing case study:**

- **Reasonable level of difficulty.**
- **As short as possible, as long as necessary.**
- **As clearly as possible**
- **No more than 150 words.**

☐ **advices:**

- **analyze data**

Examples:

Abdominal distension on right side=☐ hepatomegaly.

Temperature 35 =☐ hypothermia.

Respiratory rate 80\min =☐ tachypnoea.

Yellowish skin =☐ jaundice.

- Read carefully, pay attention to details.
- If information NOT available, assume it is normal of Not contributing.

Ex: in a case of hemolytic anemia, Rh of mother and fetus was NOT mentioned so the cause of anemia is NOT Rh incompatibility.

- ☐ Pay attention for vital signs and growth parameters whether normal of abnormal.
- ☐ Read about topics
- ☐ ركز في الحاجات الأساسية

1- A 10- month- old infant presented with a one day history of a blanching influent rash which started on his face and now covers his entire body. He is miserable with conjunctivitis and fever of 38.5 C. the illness started with runny nose and cough five days previously.

- ☐ What is the most likely diagnosis?

a) Scarlet fever

b) Sweat rash

c) chicken pox

d) measles

Explanation of the case:

- 10 month old: so may be:

Congenital heart

Hypothyroidism

Gastroenteritis\meningitis

{infections generally speaking}

It is NOT:

**Rheumatic heart disease (occurs in
older patients)**

Brain tumor

Duchin myopathy.

**Rh incompatibility (occurs in
younger patients)**

It is difficult to be:

**Streptococcal pharyngitis (if
pharyngitis is suspected, it may be VIRAL)**

☐ **in a case of respiratory problem :**

if patient is < 2 years , it is MOSTLY bronchitis

>2 years, it is MOSTLY bronchial asthma

- one day history: it is == acute condition

=== complication of chronic condition

- blanching: means on pressure it blanches
التدوس عليها تختفي

The lesion is macular

So chicken pox is excluded, because lesion in chicken pox is papulovesicular (vesiculobullous) , contains NO macules

- confluent:

- rash: حاجه أساسيه ، اوعى تختار حاجه مفهائش ال rash

* Rash disorders in 10 month baby

- ☐ measles
- ☐ German measles
- ☐ Scarlet fever: occurs mostly after 2 years of life, so this case is NOT scarlet fever.
- ☐ Roseola infantum: it occurs ONLY in INFANT (INFANTUM)

Does NOT occur after 6 years.

- Started on face and covers his entire body.

- ☐ This is CHARACTERISTIC for MEASLES
- ☐ In German measles, rash develops very rapidly

it develops and ends in 3 days (3 days rash),
this means that rash disappears from the face
when it reaches the trunk.

□ لو فيه صوره لواحد عنده rash مغطى جسمه كله و وشه تبقى

الصوره ل measles و استحاله تكون ل German measles

لأنه مينفعش تكون موجوده فى الجسم كله فى نفس الوقت

- Miserable : VERY sick- irritable

□ It differentiates measles from German measles,
as the patient of measles appears miserable.

- Conjunctivitis: measles is characterized by 3 Cs

1- Coryza: runny nose , upper respiratory
catarrhal

2- Cough : بىكح جامد:

الطفل اللى لا يكح مبيقاش عنده measles .

3- Conjunctivitis : عينييه حمرا و مدمعه

□ The 3 Cs differentiate measles from:

German measles: there is NO cough

roseola infantum: there is Prodroma.

Fever + rash + miserable + conjunctivitis===□ Measles.

- Runny nose and cough for 5 days.

□ So the case CHRONOLOGICALLY is :

10 month infant =□ 5 days runny nose &

cough=☐

==☐rash

1- day☐ miserable.

===☐ choice (A) : scarlet fever.

- Points against:

- ☐ Scarlet fever occurs mostly after 2 years of life, but age of the case is 10 months.
- ☐ In scarlet fever, pharyngitis/ sore throats essential, but this case contains no sore throat.

===☐ choice (B): sweat rash حمونيل

- Points against:

- ☐ Sweat rash is a febrile condition but in this cases there is fever
- ☐ This case is miserable with prodroma & conjunctivitis which is not present in sweat rah

===☐ choice (C) :

- Points with:

- ☐ Age: 10 months.

- Points against:

- ☐ Duration of the fever does NOT coincide with that of chickenpox
- ☐ Rash of chickenpox is papulovesicular (vesiculobullous), while in this case. Rash is blanching (blanch on pressure) which means

that rash is macular.

=== ☐ choice (D): measles (the right choice)

- Points with:

- ☐ **Age of patient: 10 months**
- ☐ **Fever**
- ☐ **Onset / prodroma**
- ☐ **3Cs**
- ☐ **Characteristic rash**

e) A mother brings to a clinic her 4 – years old son who began complaining of right knee pain 2 weeks ago , is limbing slightly, he is fatigues and has had a fever to 38.2 C

- ☐ **What is the most important diagnostic laboratory test to perform?**
 - a) CBC**
 - b) Sedimentation rate (ESR)**
 - c) Epstein- bar virus titre**
 - d) Rheumatoid factor**

Explanation of the case

- **Right knee pain:**
 - ☐ If there is **ONLY** pain in the joint, **ONLY** pain without limitation of movement, so it is arthralgia
 - ☐ If there is pain in the joint with limitation of movement & on examination, there are redness, hotness & swelling, so it is arthritis.
- **2 weeks:**
 - ☐ 2 weeks are quite long duration so the patient is:
 - # Not acute arthritis
 - # **MOSTLY** chronic
 - ☐ In ordinary conditions as trauma or acute arthritis, it never exceeds 5 days
- **Limbing slightly** **بيعرج حاجه بسيطه**
 - ☐ Limbing slightly means limitation of movements, so it is arthritis **NOT** arthralgia
 - ☐ This is **NOT** a rheumatoid case because lesion is affecting **ONLY ONE JOINT** & rheumatoid case is **POLYARTHRITIS** (at least 2 joints are affected).
- **Fatigued:**
 - ☐ Patient is fatigued because of long duration
 - ☐ Fatigue means malaise which is a constitutional manifestation, so the condition is **NOT VIRAL**, **NOT COMMON COLD** for example.
- **Summary**

**4 years old- 2 weeks illness- fever- monoarthritis –
constitutional manifestations**

=== ☐ choice (A): complete blood count (the right choice)

- Points with: if complete blood picture shows:

- ☐ **Blast cells: so it is leukemia**
- ☐ **Leucopenia: so it is rheumatoid arthritis**
- ☐ **Leucocytosis: so it is bacterial infection**
- ☐ **Thrombocytopenia: so it is leukemia**
- ☐ **Anemia: so it may be leukemia or systemic lupus erythematosus.**

= ☐ it is the most valuable test

Choose the investigation that has MOST valuable results

و ماتر علش لو طلع negative

=== ☐ choice (B): ESR

- Points with:

- ☐ **If positive :it may be TB or leukemia**

- Points against:

☐ It may be negative

===☐ choice (C): EBV

- Points with:

☐ If positive : so it is EBV infection

- Points against:

☐ It may be negative.

===☐ choice (D): rheumatoid factor

- Points with:

☐ If positive: so rheumatoid, rheumatoid may be poly or mono – arthritis.

- Points against:

☐ If negative: it does NOT mean that there is no rheumatoid arthritis.

3 – A 12 months old boy presents to the emergency room department with a 6 hours of vomiting , colicky abdominal pain & irritability. On physical examination, a sausage like mass palpated in the right upper quadrant of the abdomen.

☐ What is the most appropriate next step in management?

a) Order a CT scan of the abdomen

b) Order a barium swallow

c) Obtain a surgical consultant

d) Follow up examination after 4 hours

Explanation of the case:

- **6 hours**
 - ☐ **VERY ACUTE condition**
 - ☐ **May be poisoning for example**
- **Sausage – shaped mass:**
 - ☐ **So the condition is NOT poisoning**
 - ☐ **Case is NOT acute appendicitis because it does NOT occur in such young age**
 - ☐ **Case is not gastritis due to the presence of this sausage shaped mass, and absence of diarrhea.**
- **Case is MOSTLY intussusception:**
 - ☐ **Because this is the age if intussusception**
 - ☐ **It occurs after viral infection causing gastroenteritis leading to telescoping of intestine==☐intussusception**

===☐choice (A): order CT scan abdomen

- **Points with:**
 - ☐ **It will demonstrate the intussusception**
- **Points against:**
 - ☐ **Look choice (C)**

=== ☐ choice (B) : Barium swallow

- Points against:

- ☐ It shows the stomach till the duodenum ONLY.
- ☐ If we were to do barium, so we would use barium enema.

=== ☐ choice (C): obtain surgical consultation (the right choice)

- Points with:

- ☐ Reduction of intussusception by enema containing air or barium using rectal tube so it pulses & corrects the intussusception.
- ☐ If you do NOT do so , the condition may progress to gangrene & perforation which requires resection anastomosis.

=== ☐ choice (D): follow up

- Points against:

- ☐ NOT confirmed diagnosis, the condition may progress to gangrene & perforation

4- A 2 week old infant develops fever, 38.9 C, vomiting, and irritability. His heart rate is 170/min, and RR is 40/min. The infants anterior fontanelle is full, but there is no nuchal

(neck-related) rigidity. The rest of examination is unremarkable.

What is the appropriate management?

- A. Oral fluid and follow up in 24 hr**
- B. Oral amoxicillin and follow up in 1 week**
- C. Admission to hospital for investigation and ttt**
- D. IM ceftriaxone and follow up in 1 week**

Explanation of the case:

- **2 weeks old : neonate**
- **Fever: neonatal fever**
 - ☐ **Is a VERY SERIOUS condition because neonate is immunodeficient.(it is NOT tonsillitis, or common cold for example)**
 - ☐ **It requires admission to hospital, culture & investigations (if culture are negative , then you can say it was viral)**
- **Vomiting:**
 - ☐ **Vomiting ALONE: very common at this age.**
 - ☐ **It is NOT an annoying symptom.**
- **Irritability: the neonate is irritable.**
 - ☐ **He is crying علی صرخه واحده (صرخه جامده)**

☐ مش راضى يرضع حتى بعد ما نزلت الحرارة.

☐ **DANGER SIGN**

- Heart rate is 170/min
 - ☐ Logic because he is feverish
 - ☐ Rate concedes with both fever & age of the neonate
 - ☐ Average normal heart rate in neonate is 40-50/min even up to 60/min.
- Full anterior fontanel:
 - ☐ Full means tense or bulging anterior fontanel.
 - ☐ This indicates increased intracranial pressure
- No neck rigidity:
 - ☐ Neck rigidity (or stiffness) means limited neck flexion.
 - ☐ Nuchal rigidity is one of the signs of meningitis after closure of anterior fontanel, because opened anterior fontanel allows release of increase in intracranial tension.

===☐ choice (A): oral fluid and follow up in 24 hours

- Points with:
 - ☐ Patient is feverish
- Points against:
 - ☐ Disaster, within 6 hours, patient develops meningococemia.

☐ After another 6 hours, patient will die.

=== ☐ choice (B): oral amoxicillin and follow up in 1 week

- Points against:

☐ NOT oral

☐ Amoxicillin is not appropriate choice because this case needs broad spectrum antibiotics.

☐ Admission & hospitalization is a must.

=== ☐ choice (C): admission (*the right choice*)

- Points with:

☐ If the case is meningitis, admission is a **MUST** especially in this age group.

=== ☐ choice (D): IM ceftriaxone & follow up in a week

- Points with:

☐ IM not oral

☐ Ceftriaxone : potent broad spectrum antibiotic

- Points against:

☐ Improper treatment of a case of meningitis in such way may cause post meningitic hydrocephalus.

(1-3) 5- A 2 week old infant has had no immunization, sleeps 18 h a day, weight 3.5 kg, and takes 60 ml of standard infant formula four times a day, but no solid food and no iron or

vitamin supplements.

*** What should be of most concern about this infant?**

1. Immunization state

2. caloric intake

3. iron levels

4. circadian rhythm

Explanation of the case

- **2 weeks old: neonate**
- **No immunization: no problem**
- **Sleeps 18 hours :** مهمه حديث الولاده انه يرضع و ينام و يكبر فكذا عادى خالص
- **3.5 Kg: normal provided that birth weight is NOT mentioned.**
- **60 ml of standard infant formula: acceptable.**
- **Feeding four times/day:**
 - ☐ **It should be 8-12 times/day**
 - ☐ **Feeding every 2-3 hours.**
- **No solid food: acceptable.**
- **No iron or vitamins:**
 - ☐ **If the newborn is artificially fed, so formula**

contains these elements.

- ☐ If the newborn is breast fed, iron & vitamins supplementation should be given at 4 months.

=== ☐ choice (2): caloric intake (the right choice)

=== ☐ choice (3): iron levels

- Points against :

- ☐ Iron passing from mother through placenta is sufficient for the baby for 4 months after birth.

=== ☐ choice (4): circadian rhythm.

- Points against:

- ☐ Newborn sleeps by day and awakes by nights.
(Inverted sleep rhythm).

1) A 2-week-old infant has had no immunizations, sleeps 18 h a day, weighs 3.5 kg, and takes 60 mL of standard infant formula four times a day, but no solid food and no iron or vitamin supplements.

What should be of most concern about this infant?

- A) Immunization status**
- b) caloric intake**
- C) Iron levels**
- D) Circadian rhythm**

2) A 5- year- old boy who was previously healthy has a 1-day history of low grade fever, colicky abdominal pain, and a skin rash on his buttocks. On examination, no abdominal tenderness, stool is positive for blood and platelet count is normal.

What Is the most likely diagnosis?

- A) Anaphylactoid purpura**
- B) Meningococemia**
- C) Leukemia**
- D) Hemophilia A**

3) A 2-month-old boy with a 3-day history of mild fever and runny nose. Suddenly develops high fever, cough and respiratory distress. Within 48 hours, the patient deteriorated and has developed a pneumatocele and a

left sided pneumothorax.

What Is the appropriate first action?

A)I.V. antibiotics

B) Blood gases

c)chest tube

D) Antipyretics

4) A 5-week-old boy presents to clinic with vomiting for the last 2 weeks. He is not gaining weight properly. The mother states the vomiting is projectile, non-bilious but she feels that he has a good suck and swallow. Examination revealed an olive-like mass felt to the right of umbilicus

What is the most likely diagnosis?

A) Early gastroenteritis B)sepsis C) faulty finding technique D)pyloric stenosis

) A 4-year-old boy presents with a 3-day history of malaise, fever to 41°C, cough, coryza, and conjunctivitis. He then developed an erythematous maculopapular rash and is noted to have white pinpoint lesions on a bright red buccal mucosa opposite his lower molars.

\ What is the most likely diagnosis? *

- A) Roseola infantum - .
- B) German measles
- £) Measles
- D) Varicella ,

6) About 12 days after a mild upper respiratory infection, a 12-year-old boy complains of weakness in his lower extremities. Over several days, the weakness progresses to include the trunk. On examination, deep tendon reflexes are lost in lower extremities. Spinal fluid studies are notable for elevated protein only. ...

-, **What is the most likely diagnosis?**

A) Botulism

B) Post-diphtheritic paralysis

.

C) Werdnig Hoffmann disease

D) Guillain-Barre syndrome

7) A 4-year-old previously well boy is brought to clinic because he developed pallor/ dark urine, and jaundice over the past few days. He is taking trimethoprim-sulfamethoxazole for otitis media. Laboratory testing shows low hemoglobin and hematocrit and an elevated bilirubin level. .

What is the most likely diagnosis?

A) Hepatitis A .

B) Glucose-6-phosphate dehydrogenase deficiency

C) Drug-induced hepatitis

D) Galactosemia

8) A 1-day-old infant develops jitteriness and convulsions. He was born at 34 weeks' . gestation to a woman whose pregnancy was complicated

by diabetes mellitus and pregnancy-induced hypertension.

-

Which of the following serum values could explain his condition?

A) Serum bicarbonate level of 22 mEq/dl-

A) Serum calcium of 6.2 mg/dL

C) Serum glucose of 45 mg/dL

D) Serum sodium of 138 mEq/dL

-) An 8-year-old girl presents with a low grade fever and a diffuse maculopapular rash. On examination, her physician notes mild tenderness and marked swelling of her posterior cervical and occipital lymph nodes. Three days after the onset of illness, the rash has vanished.

What is the most likely diagnosis?

A) Measles

B) German measles

C) Roseola infantum

D) Infectious mononucleosis

2) A 10-month-old female infant is brought to clinic for routine health evaluation. Her

diet consists of ordinary food and a lot of fresh whole milk. On examination, she is

Pale, hemoglobin is 7.5 gm%: otherwise there are no abnormalities.

What is the most likely diagnosis?

A) Thalassemia

B) Iron deficiency anemia

C) Sickle cell anemia

D) Anemia of chronic illness

3) A 10-week-old infant develops fever (101.5°F). Vomiting and irritability. His heart

rate is 170/min and respiratory rate is 40/min. The infant's anterior fontanel is full, but

there is no neck rigidity. The rest of examination is

unremarkable.

What is the most appropriate diagnostic test?

- . A) Cerebrospinal fluid examination**
- B) Complete blood count and ESR**
- C) X-ray skull**
- D) Chest x-ray**

A) A 14-month-old infant presents to clinic because of poor weight gain and delayed walking. History revealed exclusive breast feeding with little baby food. Or. Exam, he has large head, distended abdomen, and palpable swellings at costochondral junctions.

What is the expected laboratory finding in this infant?

- A) Low calcium**
- B) Low alkaline phosphatase**
- C) Low phosphorus**
- D) None of the above**

-) An 11 -year-old child complains of swollen glands in his neck and groin for the past 6 months and an increasing cough over the previous 2 weeks. He also reports some levers, especially at night, and some weight loss. On exam, he has non-tender cervical, axillary, and inguinal nodes, no hepatosplenomegaly. And other systems arc within normal.. ■

What is the most appropriate next step?

- A) Biopsy of a node
- B) Complete blood count and differential
- C) Trial of antituberculous drugs
- D)"Chest x-ray
- 6) The mother of a 2-week-old infant reports that her baby sleeps most of the day. She has to awaken her every 4 h to feed and the infant has persistently hard stool. On examination, HR 75/m and temp is 35C, baby is still jaundiced and has a distended abdomen and an umbilical hernia.

What is the most appropriate diagnostic test?

- A) Abdominal ultrasound**
- B) Blood count and blood culture**
- C) Total and direct serum bilirubin**

7) A previously healthy 5-year-old boy has a 3-week history of low grade fever of unknown source, fatigue, myalgia and headaches. On examination, he is found to have a heart murmur, petechiae and mild splenomegaly.

What is the most likely diagnosis?

- A) Rheumatic fever**
- B) Scarlet fever**
- C) Endocarditis**
- D) Tuberculosis**

8) A 1-week-old infant presents with a large pale blue lesion over the buttocks bilaterally. The lesion is not palpable, and it is not warm or tender. The mother denies trauma and reports that the lesion has been present since birth.

What is the most appropriate action?

- A) Check platelet count**
- B) Give vitamin K injection**
- C) Delay circumcision**
- D) Reassurance**

IMCI Questions

(More than one answer may be correct)

9- A child aged 2 years suffered from high fever yesterday, today he develop an attack of convulsions followed by deterioration of level of consciousness. On examination we found that the child is unconscious, with neck stiffness & high fever 39 C.

Which of the following statement(s) is (are) correct for that case

- a) According to IMCI his fever is classified as very severe febrile disease.**
- b) According to IMCI C.T. scan should be done**

immediately to confirm cerebral

Infarction.

**C) CSF analysis is important to confirm
your diagnosis**

**D) Presence of bulging fontanel can confirm
CNS infection,**

**10- A child aged 12 months suffering from attack of acute
diarrhea in the last 2 days, on
examination, he is playing, he doesn't want to drink, he has
sunken eyes & his skin pinch
goes back immediately. There is no blood in the stools.**

**Which of the following statement(s) is (are) correct for that
case**

**a- According to IMCI his condition is classified as some
dehydration**

**b- The patient can be sent home instructing the mother.
to increase fluid intake to
Compensate for fluid lost in diarrhea**

**c- The patient should receive oral anti-diarrheal At
home to be cured from the attack**

of diarrhea.

d- Encourage early feeding to prevent malnutrition.

